WATERS, MCPHERSON, MCNEILL, FITZPATRICK
A PROFESSIONAL CORPORATION
ATTORNEYS AT LAW
SECAUCUS - JERSEY CITY - TRENTON
MEADOWLANDS OFFICE
400 PLAZA DRIVE
SECAUCUS, NEW JERSEY 07094
201-863-4400

THOMAS J. O'CONNOR

DIRECT DIAL
201-330-7466

TELEX 129162

TELECOPIER
(201) 863-2866

March 11, 1988

James W. Haggerty
Area Manager
Western Permits Section
Department of the Army
New York District, Corps of Engineers
26 Federal Plaza
New York, New York 10278-0090

Re: Eighty Associates
Lots 4D, 19 & 21, Block 106A
East Rutherford, New Jersey
ACOE Application No. 87-921-J1
Our File No. 5481-1

Dear Mr. Haggerty:

Please find enclosed the Soils Sampling Report on Lot 21, Block 106A of the Eighty Associates property in East Rutherford, New Jersey. As agreed at our meeting of November 24, 1987, Paulus, Sokolowski & Sartor (PS&S) have completed the report on Lot 21 in order to confirm the results of the initial soil sampling report submitted with Eighty Associates' application in December, 1986. It was agreed that if the enclosed report confirmed PS&S's earlier results no further testing would be required.

Using guidelines provided by the USEPA, PS&S conducted an extensive soil sampling analysis of Lot 21. As the report indicates, the results confirm the December 1986 report. The levels of contaminates are substantially in agreement with the December 1986 results.

PS&S did encounter unexpected levels of cadmium and chromium in its soils sampling study. These higher levels of cadmium and chromium were determined to be a result of an outfall pipe discharging directly onto Lot 21. As no such pipe was found near Lots 19 or 4D, this problem was determined to be localized and should not affect Lots 4D or 19. PS&S has also determined that the cadmium and chromium can be remedied as part of the mitigation plan for Lot 21.

WATERS, McPHERSON, McNEILL, FITZPATRICK
A PROFESSIONAL CORPORATION
ATTORNEYS AT LAW

The result of the enclosed soils sampling report have confirmed the December 1986 soils testing. As agreed to our November 24, 1986 meeting, no further testing of Lots 4D and 19 should be required. We request that the public hearing be scheduled and the required public notice be published as soon as possible.

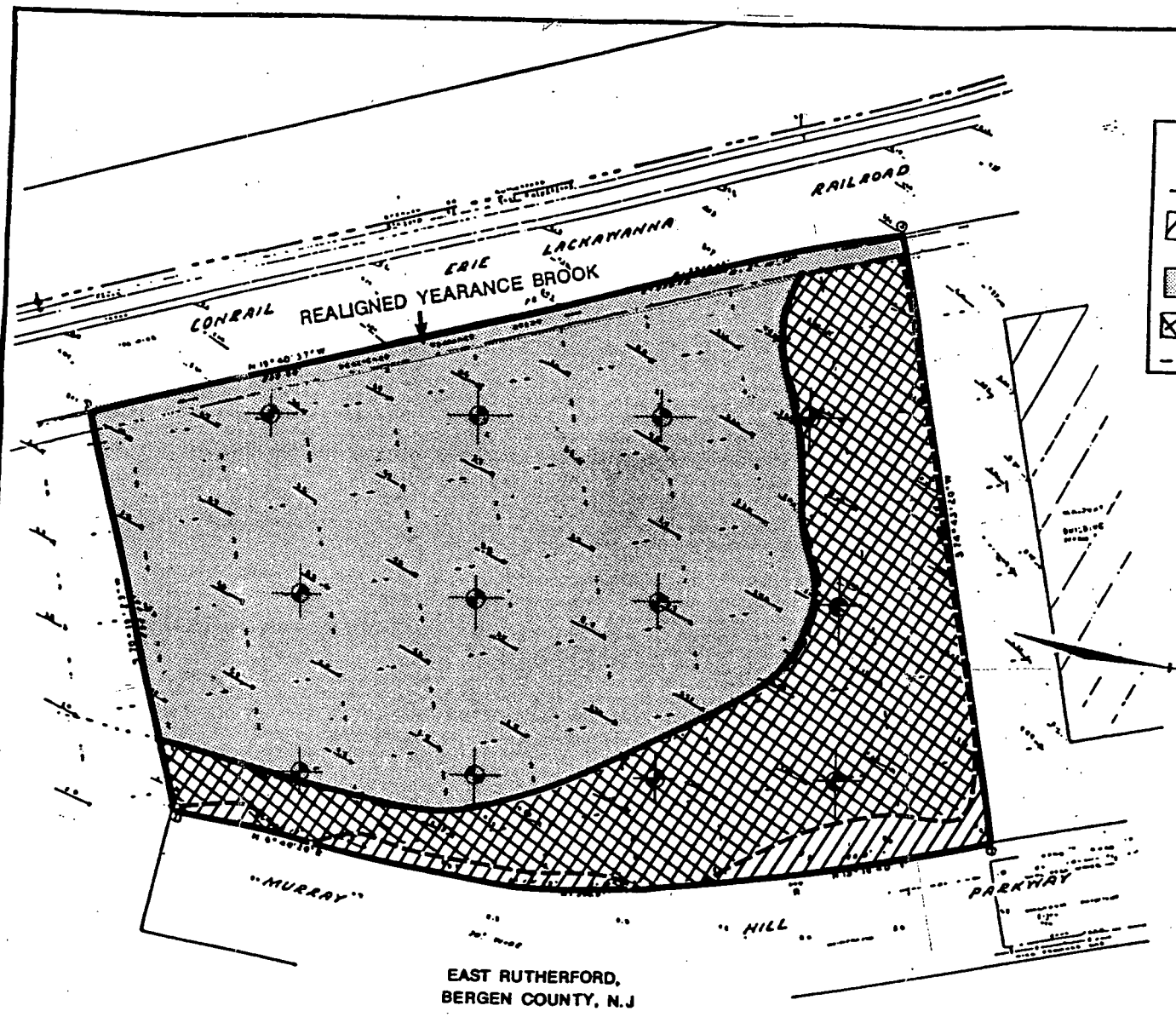
Very truly yours,

WATERS, McPHERSON, McNEILL, FITZPATRICK

BY: _____
Thomas J. O'Connor

TJO'C/kk
encl.

cc: Kathleen Drake, USEPA
Jim Schmittberger, USEPA



LEGEND

- SITE BOUNDARY
- UPLAND AREAS TO BE EXCAVATED & PLANTED WITH WETLANDS VEGETATION
- UNALTERED WETLANDS, OR OPEN WATER IN ACOE JURISDICTION (2.3AC.)
- FILLED AREAS TO BE EXCAVATED & PLANTED WITH WETLANDS VEGETATION
- WETLAND JURISDICTION LINE *

* APPROVED BY ACOE

PROPOSED SOIL SAMPLING SITES

EAST RUTHERFORD,
BERGEN COUNTY, N.J

SOIL SAMPLING PLAN FOR LOT 21

NOTE: SURVEY BASE MAP BY SABETAY BEHAR L.S. LIC. NO. 15103 MAY 21,1986

PAULUS SOKOLOWSKI and SARTOR INC
CONSULTING ENGINEERS
67A MOUNTAIN BOULEVARD EXTENSION
P.O. BOX 4039
WARREN, NEW JERSEY 07060

EIGHTY ASSOCIATES

MITIGATION SITE
LOT 21, BLOCK 106A

DATE 1/21/87	JOB NO. 488-022
SCALE AS SHOWN	
DRAWN M.R.	SHEET NO. 5 OF 5
CHKD. S.O.	

PAULUS
SOKOLOWSKI
and SARTOR, INC.
CONSULTING ENGINEERS

67A MOUNTAIN BOULEVARD EXTENSION • P.O. BOX 4039 • WARREN, NEW JERSEY 07060
(201) 560-9700 FAX (201) 560-9768

PRINCIPALS
William Paulus, Jr., P.E.
Anthony J. Sartor, Ph.D., P.P., P.E.
O. von Bradsky, P.E.

David R. Antes, P.E.
Robert L. Bloch, P.E.
Philip A. Falcone, P.E.
James R. Mehltretter, P.E.
Frank P. Vultaggio, P.E.

SENIOR ASSOCIATES
Michael J. Dillon, P.P., P.E.
Michael J. Ganster, P.E.
Joseph J. Lifrieri, P.E.
Emad Youssef, P.E.

ASSOCIATES
Glenn Brackman, P.E.
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Michael P. Cohen, P.E.
Bruce T. Hawkins, C.L.A.
Joseph J. Fleming, P.E.
Marilyn Lennon, P.P.
Harshad M. Mody, P.E.
Janos Szeman

November 24, 1987
0448-022-04

Thomas J. O'Connor
Waters, McPherson, McNeill, Fitzpatrick
400 Plaza Drive
Secaucus, New Jersey 07094

Re: Application No. 87-921-J1 by
Eighty Associates,
Your File #5481-1

Dear Mr. O'Connor:

Confirming the results of the discussions at the meeting of November 24, 1987 with James Haggerty of ACOE and Kathleen Drake and Jim Schmittberger of USEPA, Paulus, Sokolowski and Sartor, Inc. (PS&S) will prepare an additional soil sampling plan for Block 106A, Lot 21 (proposed mitigation site) and acquire additional soil samples for laboratory testing. Only Lot 21 will be sampled, at this time. If the laboratory analyses do not indicate significant contaminant levels, then soil sampling of the two proposed development sites, Lots 4D and 19 will not be required. If sampling results indicate the presence of significant contaminant levels further discussions with ACOE and USEPA will be necessitated and further sampling may be required.

Our sampling plan for Lot 21 will follow the guidance given by USEPA at our meeting. Sample locations will be spaced in a grid pattern, 100 feet on centers (see attached map). A total of 12 sample locations will result. At each of these sample locations, one foot individual discrete samples will be taken at depths of 0 to 1 foot and 3 to 4 feet. The 3 to 4 foot sample is designed to simulate a depth of one foot below proposed wetland enhancement excavations and it follows guidance provided by Dr. Richard Lee of the ACOE Waterways Experimentation Station for another site in the Berry's Creek Basin.

Sampling procedures, described in the Field Sampling and Procedures Manual, July 1986, NJDEP Division of Hazardous Site Mitigation and the USEPA Region II Guidance Document, will be utilized. Chain-of-custody, appropriate health & safety and quality assurance/quality control procedures will be followed. A Tier II deliverable package, including trip and field blanks and duplicate samples, will also be prepared.

The soil samples will receive both bulk dry weight and USEPA extraction laboratory analyses. Bulk analyses will be performed in accordance with USEPA Manual 600/4-79-020 while USEPA Manual SW-846,3rd edition will guide the USEPA extraction procedures. Both bulk and extraction samples will receive laboratory analyses for arsenic, barium, cadmium, chromium, lead, mercury, selenium and silver. PCB analyses will also be performed on all bulk samples. A USEPA CLP laboratory will perform all chemical analyses.

Upon receipt of the laboratory results, PS&S will prepare a letter report for submission to ACOE and USEPA. Although our report will focus on the new sample results, analysis results of the five previous samples on Lot 21 will also be considered in our report.

We expect to intiate sampling of Lot 21, as soon as possible. If ACOE or USEPA have any questions regarding our proposed sampling, plan, please ask them to contact us directly.

Very truly yours,

PAULUS, SOKOLOWSKI AND SARTOR, INC.

John T Bolan

John T. Bolan, P.E.

P. Steve Oliver
Asst. Chief Environmental Engineer

JTB/PSO/dg

cc: Mr. Jeff Zimbalist,
Eighty Associates

MORTON THIOKOL, INC.

December 3, 1986

Mr. Joseph Maher
Site Manager
Bureau of Site Management
Division of Hazardous Site Mitigation
New Jersey Department of Environmental Protection
CN 028
Trenton, New Jersey 08625

Re: Remedial Investigation and Feasibility Study ("RI/FS")
Ventron/Velsicol Site

Dear Joe:

In accordance with our November 24, 1986 telephone conversation, I am enclosing O'Brien and Gere's "drilling logs" from the October 29 & 30, 1986 demonstration sediment sampling program in Berry's Creek. On the basis of this program and other recently discovered information, I would like to propose certain changes/additions to the "Project Specific Request for Proposal for the Berry's Creek Area/Wood Ridge Site".

Creek Sediment Sampling Procedure

It is suggested that you consider revising page 49 of the above-noted document to accommodate the following preamble which amplifies and clarifies the desired work effort:

> "The Department's primary purpose for this extremely important and difficult phase of the sampling program is to characterize the presence and distribution of mercury in the Berry's Creek sediments. These data, and the results of two intensive laboratory studies being performed by the Corps of Engineers Waterways Experiment Station to ascertain the bioavailability of mercury to aquatic organisms and to quantitate the influence of environmental variables on mercury methylation and migration in Berry's Creek, will be utilized by the successful bidder to determine the need for remedial

110 North Wacker Drive, Chicago, Illinois 60606-1560 (312) 807-2000

measures in the Creek. As it is contemplated that such actions could include dredging, covering & bypassing, channelization, water quality improvement and/or installation of tide gates, bidders may propose to obtain additional data that may be necessary for their evaluation of the applicable above-noted, or other, alternatives in addition to the consequences, if any, of no action.

The flow in Berry's Creek is strongly influenced by the tide. At low tide, most of the creek bed and its mudflats are exposed; at best, the channel is only a few feet in depth. Excellent aerial maps of the Creek may be obtained from the Hackensack Meadowlands Development Commission. The creek stratigraphy appears to generally consist of a dark organic "muck" layer which is underlain by gray silty sand that grades into clay. The Department desires samples of the organic, sand and clay layers in the stream channel and on the mudflats midway between the high water shore line and the center of the creek. As the exposed mudflats may not support the weight of personnel, it is strongly suggested that the bidders consider the use of a flat-bottomed boat to obtain the samples.

The tidal effects within the creek will dictate the times during which the tidal flat and, possibly, the stream channel can be sampled by boat. Additionally, the rapid drop in stream level will require that tidal changes be monitored so that the sampling boat is not "beached" during low tide. Approximately four to six hours of sampling time may be available during high tide conditions. The successful bidder will be expected to plan the sampling effort to make the best possible use of personnel and equipment in order to minimize any low-tide downtime.

Samples of the top organic muck may be obtained by pushing a sampling tube through the organic layer to the underlying silty sand and placing a vacuum on the head space above the sample. This vacuum, combined with the plugging effect of the underlying sand, should prove effective for removing a core of this layer. Although the bidders may propose alternate methodologies, the Department recommends that deep, or combined shallow and deep, core samples be obtained by driving approximately eight foot lengths of beveled plastic pipe, possibly two inch schedule 40 PVC, into the sediment either by hand or mechanically. After retrieval, the tubes will be sealed with plugs and marked for identification.

Regardless of the sampling procedure used, it is expected that sample recovery will range from 25 to 75 per cent. In addition, the core samples will probably be compressed, rendering it difficult to obtain depth-specific data. Sample preparation for this program will consist of maintaining the core samples within the tubing at 0°C to provide for preservation and allow four samples per core to be acquired (probably by saw cutting the tubing) for analysis. It will be expected that two samples will be obtained above the muck/silt interface and two samples below the interface; if clay is present in the sampler, the latter two samples will consist of materials obtained from the silty sand layer and clay layer, respectively. The use of transparent tubing, such as Lexane®, would be expected to significantly reduce the time for sample evaluation and preparation. This would allow further documentation of the sampling event at the laboratory by noting the percent recovery and visual observation of the core sample.

Well Drilling Program

On the basis of my review of the attached logs of wells installed in 1977 by the NJDEP's Division of Water Resources and borings made in 1974 for Rovic Construction that were recently located in NJDEP's files, I suggest that the following preamble be inserted on page 47 to begin the "Borings" section of the Request for Proposal:

"The stratigraphy of the site generally consists of about 4 to 12 feet of fill which overlies light to dark gray silty sand. At some locations, the sand layer may be overlain by about one foot of peat and/or several feet of brown sand/silt. It is expected that, throughout the site, gray silty clay will be encountered at depths ranging from 10 to 20 feet. The presence of this layer, which apparently extends downward for several tens of feet, will be ascertained by drilling 5 feet into it and retaining at least one split spoon sample for verification. The bottoms of the 10 foot screens for the previously noted monitoring wells will be situated at the top of this clay layer. In no case, however, will the top of the screened interval of a well be closer than 7 feet to the ground surface.

If the bidder believes that testing is necessary to ascertain if the presence of the clay may justify the suitability of in situ remedial measures, additional tasks may be proposed."

Marsh, Creek and Biota Analytical Procedures

A detailed review of NJDEP's files has produced the attached copies of brochures and pertinent pages from a July 22, 1971 letter that describe the product line of Wood Ridge Chemical Corporation. You may remember that I have noted that benzene was probably the only organic priority pollutant present at the site and that it was utilized as the basis for the phenyl compounds; this is essentially confirmed by the attached materials. As a result of the possible presence of "mineral spirits", uncertainties regarding dumping at the site by outside sources, and the stated policies of the Department for conducting RI/FS investigations, I fully support the use of priority pollutant analyses for the study of the 40 acre site. However, I believe that all off-site studies should only involve the specific category of priority pollutant analyses (i.e., metals, cyanides, total phenols, volatiles, acid extractables, base/neutral extractables and/or pesticides/PCBs) that were detected in significant levels during the preceding on-site study phase. As two other Superfund sites could impact the Creek (demonstrated by the heretofore unsuspected levels of PCBs that were found in the sediments as a result of the WES work), it is patently unfair to expect Morton Thiokol and Velsicol to characterize the entire ecosystem for organics for the benefit of others.

In order to allow an option for the resolution of this matter, I propose that the following sentence be added on pages 49, 50, 51 and 52:

> "Although bids have been solicited for complete suites of priority pollutant analyses, the Department reserves the right to eliminate all, or any category of, analyses (i.e., metals, cyanides, total phenols, volatiles, acid extractables, base/neutral extractables and/or pesticides/PCBs)."

If you have any questions regarding this matter, please telephone me at (312) 807-2158.

Very truly yours,

Bill

William K. Weddendorf, Manager
Corporate Hazardous Materials

WKW/vak
Attachment

cc: R. Dime - NJDEP (w/o att.)
C. R. Hanson - Velsicol (w/o att.)
G. R. Harvell - Velsicol (w/att.)
M. L. Morris - NJDEP (w/o att.)
A. E. Slesinger (w/o att.)

State of New Jersey
DEPARTMENT OF ENVIRONMENTAL PROTECTION
OFFICE OF THE COMMISSIONER
CN 402
TRENTON, N.J. 08625
609-292-2885

August 27, 1987

Mr. James Mansky
Chief, Regulatory Branch
Corps of Engineers
26 Federal Plaza
New York, NY 10278

Dear Mr. Mansky:

EPA Region II has advised me that the supplemental test results on the C & F Realty project in the Hackensack Meadowlands have been submitted to your office. In addition, we understand that the wetlands mitigation proposal has been significantly changed since our review of the Public Notice.

As you know, I am coordinating certain aspects of the Ventron/Velsicol Superfund project. The C & F property is within our study area. The DEP would appreciate a formal opportunity to comment on the C & F proposal as it now stands. Therefore, I request that you issue a Supplemental Public Notice on the wetlands remediation plan based on the additional testing and the substantive changes in the mitigation proposal.

In addition, the Berrys Creek Technical Advisory Committee has asked me to write to you and object to the reference of a "TAG criteria" for mercury. It appears on page 16 of the report prepared by Paulus, Sokolowski and Sartor dated May 1987. There is no such thing as a TAG criteria for mercury.

Sincerely,

Lawrence Schmidt
Director
Planning Group

LS/ss
c: Joe Mahler
Merry Morris

AUG 1987

Let's protect our earth

AUG 2 4 1987

State of New Jersey
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF HAZARDOUS SITE MITIGATION
401 E. State St., CN 413, Trenton, N.J. 08625
(609) 984-2902

Anthony J. Farro
Director

MEMORANDUM

TO: JOSEPH MAHER, SITE MANAGER, BSM

FROM: DR. PETER BRUSSOCK, TECHNICAL COORDINATOR, EES/BEERA

SUBJECT: REVIEW OF C & F REALTY SAMPLING RESULTS AND PROPOSED REMEDIATION PLAN

Site Background

The C & F Realty Ltd (C&F) property is located in the Berry's Creek Basin of the Hackensack Meadowlands. C & F proposes to fill in a portion of their property which is tidal marsh and has plans for wetland mitigation of some wetlands to compensate for wetlands filled in previously. Due to the property's proximity to the Ventron/Velsicol Superfund site, which was a major source of mercury contamination in the marsh, EPA required C & F to develop and implement a sampling plan to delineate the vertical and horizontal extent of mercury and arsenic contamination on the (C&F) property. The results show the presence of significant concentrations of arsenic and mercury contamination in the site soils and sediments. EP toxicity testing indicated the soils could be disposed of as waste type #27, non-hazardous industrial waste. The proposed Remediation Plan includes removing contaminated sediments from the site.

Comments

The C & F document was reviewed in response to a request from Kathleen Stryker, EPA project manager. The following comments are provided as a courtesy to EPA since C & F itself is not a hazardous site under investigation by the NJDEP.

1. The Ventron/Velsicol study area includes the former production facility lot(s) and all of Berry's Creek, its tributaries, and marsh down to the Hackensack River (including C & F Realty marsh property). Important to note is that "The Site" under Superfund terms is the extent of contamination attributable to a particular source and any additional area that is needed for remediation of the contamination. Two other Superfund investigations in the basin are Universal Oil Products and SCP Carlstadt. The extent of these sites may eventually include the C & F property.

2. p. 15. The use of Extraction Procedure Toxicity (EP Tox) Testing results to determine the potential for contamination mobilization from sediments anything but landfill conditions is a misuse of the test procedure. No remediation decisions should be made based on such testing. The EP Tox test may grossly misrepresent contamination mobility under field conditions. EPA should contact Dr. Dick Lee of the USACOE Waterways Experiment Station (WES) to inquire what THE ongoing experimentation on Berry's Creek sediments indicates about mobilization of contaminants after disturbance of sediments.

3. p. 15. Numerous other contaminants are known to be widespread throughout the Berry's Creek Basin: including PCBs. The selection of just two contaminants precludes assessment of the additive effects of the other contaminants.

4. p. 16. There is not a TAG criterion for an acceptable level of <u>any contaminant</u>. The NJ Sediment Cleanup Objectives are 1 ppm for mercury and 20 ppm for arsenic. All reference to TAG criteria must be removed from the document.

6. p. 19. Conclusion 1. is not demonstrated.

7. p. 29.

   A. 1st paragraph. Relatively minor concentrations are significant when dealing with contaminants that bioaccumulate and bioconcentrate.
   B. 3rd paragraph. In reference to background levels of contaminants, nearly all of Berry's Creek and its associated wetlands is a hot-spot.

8. p. 30. Studies have repeatedly shown that mercury contaminated sediments continue to be moved about the basin. Also, a major dredging project is still a viable remedial alternative. Thus, it would seem inappropriate to mitigate a wetland area that will likely be recontaminated. Any wetland mitigation would be made at the developer's own risk with the potential for significant recontamination almost certain.

9. p. 36. See comment 2.

HS175/pw
cc: Dr. Merry L. Morris, Assistant Director, DHSM
Larry Schmidt, Director, Planning Group
Dr. Robert Tucker, Director, OSR
G. Bukowski, OSR

AUG 2 0 1987

Colonel Marion L. Caldwell, Jr.
District Engineer
New York District, Corps of Engineers
Jacob K. Javits Federal Building
26 Federal Plaza
New York, New York 10278-0090

Dear Colonel Caldwell:

This is in response to a July 21, 1987 letter from the Chief of the Regulatory Branch requesting the Environmental Protection Agency's (EPA) final comments to the C & F Realty proposal to maintain 13.11 acres of wetland fill and to discharge fill into an additional 1.2 wetland acres along Berrys and Never Touch Creeks in Carlstadt, Bergen County, New Jersey for the purpose of constructing warehouses. C & F Realty proposes to mitigate on site by enhancing and/or preserving 12.4 wetland acres remaining within the 30.3 acre site.

To date EPA has reviewed the following information: 1) Project Description and Documentation of Compliance with Section 404(b)(1) Guidelines (Paulus, Sokolowski and Sartor, Inc. (PS&S), August 13, 1986); 2) Results of Testing for Possible Mercury Contamination at the C & F Realty, Carlstadt, New Jersey Site (PS&S, September 11, 1986); 3) PS&S response to agency review comments (February 4, 1987) and; 4) Sampling Plan Results and Proposed Remediation Plan (PS&S, May 1987). EPA submitted review comments (December 4, 1987) to the Corps of Engineers (COE) Public Notice and documents 1 and 2 with requests for further clarification on the project's alternatives analysis and mitigation proposals and a request for more comprehensive sediment sampling given the site's proximity to the Velsicol Superfund site. PS&S responded with documents listed in 3 and 4 above.

The applicant's alternative analysis argues that consideration be given their 3 million dollar expenditure on site purchase and carrying costs based on information they received from the Hackensack Meadowlands Development Commission (HMDC). The applicant reviewed available upland areas of suitable acreage and zoning in an area 14 to 20 miles north of Carlstadt, but purchased the Carlstadt site when he determined that none of the alternative sites were practicable. The applicant was aware of the COE's regulatory role but proceeded based on HMDC information without inquiry to COE offices. As C & F documentation states, the 404(b)(1) Guidelines consider cost in analysis of alternatives. However, those considerations do not justify recouping monies lost from inappropriate site acquisition. We respect the applicant's efforts to minimize impacts and provide on-site mitigation, but the information provided does not clearly demonstrate that practicable alternative sites incurring less adverse environmental impacts were not available to fulfill the basic project purpose.

The May 1987 Sampling Plan Results and Proposed Remediation Plan provided further bulk sediment and leachate sampling results from the proposed project site and presented a remediation plan for off-site disposal of excavated sediments. The sediment levels of arsenic and mercury are significantly higher in these samples than those previously reported in the September 11, 1986 report (listed under 2 above) and are of concern to EPA. Based on information from the May 1987 report, the C & F site may be considered within the Ventron/Velsicol Superfund study area. The exact boundaries, which are defined by the extent of contamination, have not yet been established. If the C & F property is determined to be a part of the Superfund site, then any remedial activities would have to be in accordance with the requirements of Comprehensive Environmental Response, Compensation and Liability Act of 1980, as amended by the Superfund Amendments and Reauthorization Act of 1986 (CERCLA). The current sampling plan for the Velsicol site calls for the collection of six soil samples on the C & F property, therefore access for this purpose would be necessary. Target clean up levels are normally established on a site by site basis, based on site specific factors and risk assessment to determine public health and environmental risks posed by the contaminants. The New Jersey Department of Environmental Protection (NJDEP), the lead agency for the Ventron/Velsicol Superfund study, should be provided the opportunity to review the supplemental information and proposed remediation. We are uncertain if or how the proposed projects may affect the Ventron/Velsicol (Berrys Creek) Superfund remedial investigation. We recommend that the Corps issue a supplemental Public Notice affording the involved groups and agencies the opportunity to comment. If any action takes place on the C & F property, NJDEP and EPA representatives should be afforded the opportunity to monitor activities. The new information on heavy metal concentrations in the sediments indicates that the proposed excavation associated with mitigation efforts and landfill disposal may have adverse environmental effects. The proposed remediation plan should be subject to appropriate risk assessment analysis.

In conclusion, we recommend denial of COE permit authorization at this time given the potential availability of upland alternatives, as well as the complexity of the site's sediment situation and its potential for environmental impact and public hazard in the event of disturbance by mitigation efforts and construction.

in

Please contact Mario Del Vicario, Chief, Marine and Wetlands Protection Branch at 212-264-5170 with any further questions.

Sincerely,

Christopher J. Daggett
Regional Administrator

cc: US Fish and Wildlife Service, Absecon, NJ
National Marine Fisheries, Sandy Hook, NJ
New Jersey Department of Environmental Protection

bcc: Richard Caspe, WMD
Mario Del Vicario, MWP
John Frisco, ERRD
Kathleen Stryker, ERRD

and the migration of mercury and other parameters in Berrys Creek. In addition, the potential for mercury volatilization from the contaminated sediment will also be evaluated.

WES was given authorization to proceed with the research in August 1986. To date, the following items have been completed:

- contaminated Berry's Creek sediment shipped to WES
- laboratory analysis performed on sediment
- toxicity testing completed on sediment
- test systems set-up
- test organisms acquired
- Quality Assurance Project Management Plan (QAPMP) completed

Actual laboratory testing is scheduled to begin in approximately two (2) weeks. The entire research effort is scheduled to take two (2) years and is anticipated to be complete in August 1988.

Item 3 - RI/FS Contract Status

As explained at our meeting on January 9, 1987, the contract for the Remedial Investigation/Feasibility Study has not been bid and awarded to date for two (2) reasons. Specifically, (1) the Department and the responsible parties decided that the research work should precede the detailed delineation of the contamination in order to be in a better position to recommend a remedial action with current data and to be able to adapt the expensive data gathering effort based on preliminary research results; and (2) to address the amendments to the new Superfund law. This latter item affects not only this particular site but all Superfund sites. The implementing regulations of the Superfund law known as the National Contingency Plan are to be published in the Federal Register this summer. In the interim, the State is working with the Environmental Protection Agency to establish the appropriate contract scope of work items that will require completion in order to comply with the Superfund amendments for conducting a RI/FS.

It is our intent to solicit proposals the end of May and to have a contract signed in August.

Item 4 - Aerial Oversight of Berrys Creek Basin

The effort by your office's Emergency Management Coordinator, Mr. Harry Baker, in soliciting the resources of the State Police to supply a helicopter for an aerial reconnaissance of the project area and to supply the services of an expert photographer is much appreciated.

We will be contacting you in the very near future with a scheduled time and date for your participation in the reconnaissance.

Item 5 - Tide Gate Malfunction

With regard to your office's notification to us that the tide gate is inoperable and contributes to the flooding problem being experienced in that area, we recommend that written notification be made to Bergen County which has maintenance responsibility for the tide gate. Our office would request the

opportunity to review and comment on any proposal by the County to repair the tide gate involving any disturbance of the contaminated Berry's Creek sediment.

For your information, the New York District Corps of Engineer official responsible for the Meadowlands District is Mr. George Nieves. He can be contacted at (212)264-0182 should you have any questions regarding their particular jurisdiction regarding the periodic flooding in this area.

Your keen interest and concern for an expeditious remediation of the subject site are shared by the Department. With your continued cooperation, we will diligently work to complete this complex remedial investigation/feasibility study. Should you have any questions regarding the specifics of this update, please contact me directly at 609-633-0765.

Sincerely,

Joseph W. Maher

Joseph W. Maher
Site Manager

HS40:jb

Enclosure

cc: Harry Baker, Wood-Rdige EMC
Dr. Merry Morris, NJDEP (SAC Chairman)
Charles Hanson, Velicol (SAC)
Arthur Slesinger, Morton-Thiokol (SAC)
Larry Schmidt, NJDEP (SAC)
Dr. Robert Tucker, NJDEP (SAC)
Dr. Richard Dime, NJDEP
Dr. Tom McNevin, NJDEP
Dr. Peter Brussock, NJDEP
Kevin Kratina, NJDEP
Charles DeWeese, NJDEP
Edward Putnam, NJDEP
Ed Konsevick, HMDC

ATTACHMENT I

Berry's Creek
Sampling Results
(1/9/87: Soil/Sediment)

	SAMPLE #			
Parameter	BC001	BC002	BC003	BC004
PCB	ND	ND	ND	ND
Arsenic (As)	BCDL	BCDL	BCDL	BCDL
Cadmium (Cd)	4.4	4.1	BCDL	~~BCDL~~ 3.5
Lead (Pb)	172.0	53.0	54.0	35.0
Mercury (Hg)	8.39	7.44	1.16	2.63
Nickel (Ni)	BCDL	BCDL	BCDL	BCDL
Zinc (Zn)	196.0	254.0	82.0	55.0

All Results in $^{mg}/_{kg}$ (ppm)

ND - Non Detectable

BCDL - Below Contract Detection Limit

Let's protect our earth

State of New Jersey
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF HAZARDOUS SITE MITIGATION
CN 028, Trenton, N.J. 08625
609 - 984 - 2902

RICHARD C. SALKIE, P.E.
ACTING DIRECTOR

JAN 6 1987

Mr. James R. Marshall
Director
Emergency & Remedial Response Division
26 Federal Plaza, Room 737
New York, NY 10278

Dear Mr. Marshall:

I have become the new head of the Berry's Creek Site Action Committee (SAC) as a result of Dr. Berkowitz's promotion to Director of the Division of Environmental Quality. I am very interested in making our cooperative efforts with EPA more formal to insure a significant level of EPA participation in both the Technical Advisory Group (TAG) and the SAC. This is particularly important as the RI/FS will be initiated soon and it is essential that DEP and EPA provide a united front in this project.

Joseph Maher is our Site Manager on this case. He will be in contact with your staff in the near future to update them on current status and to urge their attendance at the next SAC meeting.

If for some reason EPA is unable to fully participate in this matter, we must make appropriate arrangements to ensure your later concurrence with investigation and site remediation. If there are any questions with regard to this matter, do not hesitate to give me a call at (609) 633-6801.

Very truly yours,

Merry L Morris

Dr. Merry L. Morris
Acting Assistant Director
Hazardous Site Science Element

MLM/km

c: Larry Schmidt
Joseph Maher
DAG Ronald Heksch

Fact Sheet

C&F Realty
Berrys Creek, Carlstadt, Bergen County, NJ

August 18, 1987

History

- C&F Realty property purchase - 30.3 acres - in February 1984.
- 8.8 acres of fill in place prior to purchase by a number of adjacent property owners as per applicant information.
  - 3.4 acres prior to 1973
  - 5.4 acres between 1973 and 1984
- Prior to purchase applicant had mercury sampling performed in addition to review of HMDC soil information from previous fill action.
- 4.3 acres of unauthorized fill discharged by applicant.
- 08/5/85 COE issue cease and desist.
- 07/18/86 to 08/18/86 COE After-the-Fact Public Notice issued:

  Proposal to maintain 13.1 acres of fill and discharge an additional 1.2 acres of fill. On-site mitigation on 12.4 acres:
  - 4.9 acres preservation as buffer - Phragmites
  - 0.2 acres preservation of cattail marsh
  - 7.3 acres restoration/enhancement of previous fill
  - 1.7 acres creation from upland

  Mitigation would excavate to lower elevations, place excavated material as dike around site, place wier at confluence of Berrys Creek and plant freshwater emergent vegetation.

- 08/13/86 COE/EPA/Applicant meeting - EPA requested review of results of previous soil sampling. PN comment period extended. Soil information received 10/22/86. C&F coordinated with the Technical Advisory Group of the Berrys Creek remediation project on this soil information.

- 11/86 COE/EPA meeting to discuss soil sampling information, COE comments, and EPA position to request further soil sampling.

- 12/4/86 EPA PN response:

  Recommended more comprehensive sediment sampling.
  Raised questions on mitigation proposal and alternatives analysis.
  Concluded that there was insufficient information to determin 404(b)(1) compliance.

- 02/87 C&F submit response comments to agencies' PN review.

- 04/26/87 C&F submit sampling results from additional sediment sampling.

Issues

° Sediment contamination with heavy metals.
Site is adjacent to the Velsicol Superfund site - directly south.

Coordination with NJRAB:
Mercury concentrations in sediment of concern;
C&F site would be considered part of Velsicol remedial investigation area; C&F project may interfere with the remedial investigation;

Mitigation efforts propose excavation. Original proposal would have placed the excavated soils on site as a berm. New proposal, in light of recent sampling results, proposes soil stockpiling, dewatering, and landfill disposal. This remedial action has not been subject to risk assessment analyses or consideration of alternative proposals.

° 404(b)(1) Compliance arguments based on Carlstadt site closest to market area, roadway network, Port Elizabeth. Information from HMDC indicated site not in COE jurisdiction. $3 million expended to date - excessive costs.

EPA Position

12/4/86 PN response - unable to determine compliance with 404(b)(1).

08/87 recommend denial - 404(q).
See attached NJRAB Memo for comment on metal concentrations.

Let's protect our earth

State of New Jersey
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF HAZARDOUS SITE MITIGATION
401 E. State St., CN 028, Trenton, N.J. 08625
(609) 984-2902

ANTHONY J. FARRO
ACTING DIRECTOR

The Honorable Herb Gorab, Mayor
Borough of Wood-Ridge
Municipal Building
81 Humboldt Street
Wood Ridge, NJ 07075

3 APR 1987

RE: Berry's Creek (Velsicol/Morton Thiokol) Site
Remedial Investigation/Feasibility Study (RI/FS)

Dear Mayor Gorab:

This correspondence is to provide your office with a status update of the Remedial Investigation/Feasibility Study for the subject Superfund site.

Item 1: Soil Sediment Sampling Adjacent To Tide Gate

On January 9, 1987 this office obtained four (4) surface sediment samples from the ground surface along the eastern bank of Berry's Creek and adjacent to the tide gate near the Velsicol property. These four (4) samples were chosen based on physical evidence as representative of Berry's Creek sediment that may have been redeposited from the creek bed onto the adjacent ground surface during the severe flooding that occurred in the area a week earlier. The samples were analyzed for the parameters: PCB's, Mercury (Hg), Cadmium (Cd), Arsenic (As), Zinc (Zn), Nickel (Ni), and Lead (Pb) which are the contaminants of highest concentration in the Berry's Creek basin based on historical documentation. Provided in Attachment 1 are the results of this sampling as reported by our contract laboratory, U.S. Testing Company.

Although the mercury values are slightly above anticipated background for New Jersey soils in general, the data does not indicate any substantial migration of mercury as a result of the storm that occurred. Of the remaining metals, cadmium and zinc are also slightly elevated relative to general New Jersey background, however as with mercury, no substantial migration from the creek is indicated. In addition, no PCB's were detected in any of the samples.

Item 2- Research Contract

As explained at our meeting on January 1, 1987, the research task of the scope of work for this RI/FS has been awarded to the U.S. Army Corps of Engineers Waterways Experiment Station (WES) in Vicksburg, Mississippi. The research will quantitate the influence of environmental variables on the bioavailability of mercury and other parameters to aquatic organisms from Berry's Creek sediment and will quantitate the influence of environmental variables on mercury methylation

BRIEFING MEMORANDUM

Berry's Creek Superfund Site

(Morton-Thiokol/Velsicol)

Plant Site Ownership History

1929 - 1960 F.W. Berk & Co. owned and operated a mercury processing plant.

1960 - 1968 Wood Ridge Chemical Co., a wholly owned subsidiary of Velsicol Chemical Co., acquired the entire 40 acre site and operated the mercury processing plant.

1968 - 1974 Ventron Chemical Co. purchased the 7 acre tract which encompasses the mercury processing facilities and operated the plant for this period. Velsicol retained ownership of the 33 acres not occupied by the plant.

1974 Ventron ceased operation of the mercury plant.

In the late 1970's, Ventron Chemical Co. was purchased by Thiokol and approximately two (2) years ago, Thiokol merged with Morton to form Morton-Thiokol.

Site Background

The site is a 40 acre parcel located in Bergen County just east of Carlstadt on the western bank of Berrys Creek in the Hackensack Meadowlands (see attached maps). In 1974, the 7 acre parcel upon which the processing facilities existed was sold to Wolf Realty Company. Wolf Realty demolished the processing plant, excavated the contaminated top soil, partly entombed the eastern area of the site, and constructed two (2) warehouses on the site. The 33 acre tract of marshland owned by Velsicol was utilized as a landfill for waste spoils from the plant operation for much of the 45 years the facility operated.

Records are very sketchy or nonexistent for much of the operating history of the facility. It is known that the plant operation included the refining of metallic mercury and the production of various amalgams, inorganic mercury compounds and phenyl mercuric salts. Available evidence to date does not suggest that methyl mercury or other organic mercury compounds were manufactured at the site.

There are few records to indicate the amounts of mercury products manufactured during the 45 years of operation. Estimates of the amount of mercury contamination range from approximately 50 tons to 400 tons. It is reported that the concentration of mercury in the sediments of Berrys Creek for a stretch of several thousand feet downstream of the site is the highest reported in the world. The contamination is spread throughout the Berrys Creek ecosystem including the adjacent wetlands.

Enforcement Background

In 1977, the Department initiated legal action against Ventron, Velsicol, et al for their part in the long term mercury contamination of the Berrys Creek ecosystem. After a 55-day trial, a lower court judge ruled the companies were liable for the cost of the cleanup and removal. The "remedy" portion of the case was not decided.

The chemical companies appealed this lower court decision to the Appellate Court. In 1981, the Appellate Court Judge upheld the lower court decision, and required NJDEP to prepare a "Clean Up Plan of Berrys Creek" for the courts consideration. It is important to note that the court was only requesting a plan for the cleanup of the Creek and not the site as well. The court ruled that NJDEP failed to prove that groundwater from the site was leaking into Berrys Creek and, therefore, it was appropriate to only cleanup the stream initially and then monitor it for a year to evaluate whether or not the site and the adjacent wetlands are sources of contamination.

The Cleanup Plan developed by NJDEP provided for the dredging of approximately a 12,000 foot stretch of Berrys Creek four (4) feet deep from the railroad bridge just north of the site to the Route 3 bridge just downstream (approximately 175,000 cu. yds.) with placement of the sediments in a secure dewatering/disposal facility to be constructed on approximately 19 upland acres of the site. Additionally, a cutoff wall (bentonite slurry) to the underlying clay layer would be constructed around the perimeter of the disposal site.

This Cleanup Plan was conditionally accepted by the Appellate Court Judge pending receipt of all necessary permits to implement the cleanup. Included among the required permits would be a U.S. Corps of Engineers 404 permit to dredge the stream, commercial dredging and waterfront development permits from NJDEP Costal Resources, and a stream Encroachment Permit and Water Quality Certificate from NJDEP Water Resources.

The chemical companies made their final appeal to the New Jersey Supreme Court and January 10, 1983, the Supreme Court heard arguments by the defendants and the state. On July 21, 1983, the Supreme Court decided all points of the appeal in favor of the state.

Project Status

As previously described, the Supreme Court Judge conditionally accepted the state's cleanup plan pending receipt of all necessary permits. The major permit required is the C.O.E. permit pursuant to the provisions of Section 10 of the River and Harbor Act of 1899 and Section 404 of the Clean Water Act.

The Department made application for the 404 permit in September 1981. The C.O.E. review of the application resulted in the determination that an Environmental Impact Study would be necessary to properly evaluate the impact of the proposed dredging plan and in turn decide whether to issue the 404 permit or not. In September 1982, the C.O.E. forwarded to NJDEP the E.I.S. Scope of Work they developed and in January 1983 forwarded its list of technical baseline data (a total of 17 tasks) that would have to be generated by the applicant (NJDEP) in order for the C.O.E. to prepare the E.I.S.

Shortly after the Supereme Court decision, Velsicol initiated a dialogue with the Department to discuss the possibility of cooperating in a joint effort to address the cleanup of the site.

In September 1983, this project achieved a ranking on the Superfund National Priority List. The Supreme Court decision in conjunction with the project achieving ranking on the Priority List resulted in even Ventron (Morton-Thiokol), the more recalcitrant of the two companies, assuming a more cooperative posture. Accordingly, both companies put up monies and authorized Environmental Resources Management-Southeast (longtime consultant to Velsicol) to meet with NJDEP to discuss whether or not we would entertain a proposal by the defendant companies for initiating a study at the site.

As evidenced by the above information, the Department was faced with essentially two (2) options for proceeding as herein described:

Option 1

This option essentially would be to follow through with the court conditionally accepted cleanup plan. This would entail the following:

1. Accomplishing the data gathering effort required by the C.O.E. to complete an E.I.S. in order for them to evaluate whether the 404 permit should be granted. Since NJDEP does not have the resources to complete the data gathering, the most appropriate alternative would be for NJDEP to develop a Request For Proposals (RFP) to hire a contractor to complete the work.

2. Request the court to require the defendant companies to put up the monies for completing the above work.

There are major drawbacks to this option. First of all, the remedy portion of this case has yet to be decided at even the lower court level. In all likelihood, the defendant companies would contest the state at every step along the way in our requesting the court to require the companies to put up any monies to proceed. Even if the state was to win at the lower court level, the court appeals available to the company could tie this case up in litigation for another 5 to 10 years. Secondly, the cleanup plan developed by NJDEP in June 1981 addresses only the cleanup of Berrys Creek and not the adjacent wetlands and the 40 acre site itself. Furthermore, there is no guarantee that a 404 permit will be granted by the C.O.E. upon their completion of the Environmental Impact Statement.

CWA Permit

Option 2

Under this option, NJDEP would engage in negotiations with the defendant chemical companies for the purposes of developing a consent agreement in which the companies would agree to pay for a comprehensive remedial investigation/feasibility study satisfactory to the state.

BUT 404 PERMIT MUST STILL BE RECIEVED. EIS ??

If an acceptable agreement could be accomplished, the advantages of this option are obvious. First of all, contamination at the 40 acre site and the wetlands as well as the Berrys Creek ecosystem could be addressed. Secondly, with the defendant companies cooperating with the state rather than litigating, a more expeditious implementation of the most cost effective and environmentally sound remedial action(s) to be taken at the site could occur. Even if the companies were to balk at the design and implementation stages, a comprehensive RI/FS complying with the Superfund National Contingency Plan developed under this option would provide the state with a powerful tool to go back into court with.

On September 19, 1983, a meeting was held between NJDEP, HMDC, and Fred Zeigler - President, Environmental Resources Management Southeast to discuss the company's preliminary proposal and the requirements and conditions the Department would place upon any cooperative study effort at the site.

The outcome of this meeting was an agreement that NJDEP would objectively review a proposal to be developed by ERM - Sourtheast for generating the 17 task baseline data requirement of the Corps to do the E.I.S. and concurrently address the requirements of a Remedial Investigation/ Feasibility Study as required under Federal Superfund regulations (much of the 17 task effort overlaps with the activities conducted for a Remedial Investigation).

On October 18, 1983, the ERM prepared Scope of Work was received by NJDEP and distributed for comment to all appropriate Department technical staff, HMDC, and the Corps of Engineers Waterways Experiment Station. On November 3, 1983, an internal meeting to discuss the proposal was held with all technical NJDEP and HMDC staff that had reviewed it. It was generally agreed that the proposal represented a good faith effort on the part of the companies and would serve as a good foundation to build upon.

Accordingly, the state decided to carry out Option 2 as long as substantive progress was made at the negotiation table. In the event that negotiations deteriorated, the state could proceed with Option 1 or opt for a third option which would be to pursue Superfund monies for this project.

Negotiation meeting #1 with the two (2) chemical companies was held on January 12, 1984. The non-negotiable items of any negotiated Consent Agreement were presented by the Department. These items were not well received by the companies and very little progress was made at this first meeting.

Prior to the second negotiation meeting, it was decided that two (2) separate teams of NJDEP personnel would be established to proceed with the negotiations. A "Technical/Scientific Team" would essentially concentrate on developing the scope-of-work for the RI/FS with ERM-Southeast while a "Management Team" would negotiate all the other elements of a Consent Agreement.

Negotiation meeting #2 between the chemical companies and the "Management Team" was held on February 7, 1984. Substantive progress appeared to be made towards the development of the elements of a mutually acceptable Consent Agreement. Negotiation meeting #3 is scheduled for March 7, 1984.

The "Technical Team" met with ERM-Southeast on February 15, 1984 to begin negotiation of the scope-of-work. This meeting included the initial development of a Technical Advisory Committee to be utilized as a support group during the RI/FS. The initial members designated to serve on this committee included representatives from HMDC, C.O.E. Waterways Experiment Station, NJDEP, and Velsicol. The committee will be expanded in the future to include representatives of academic institutions and the EPA. The first meeting of the Technical Advisory Committee is scheduled for March 21, 1984.

HS40/cs

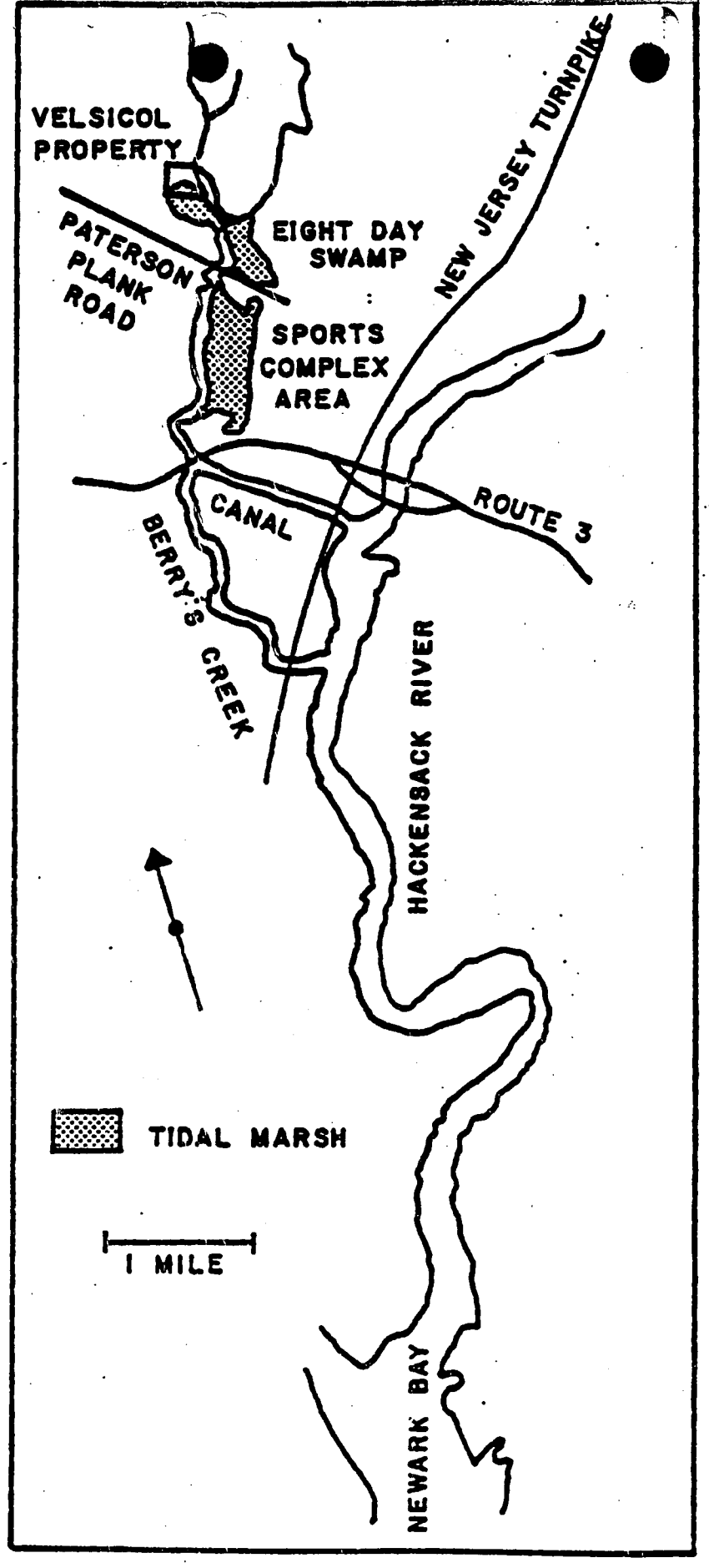

Figure 2. Berry's Creek - Hackensack River waterways.

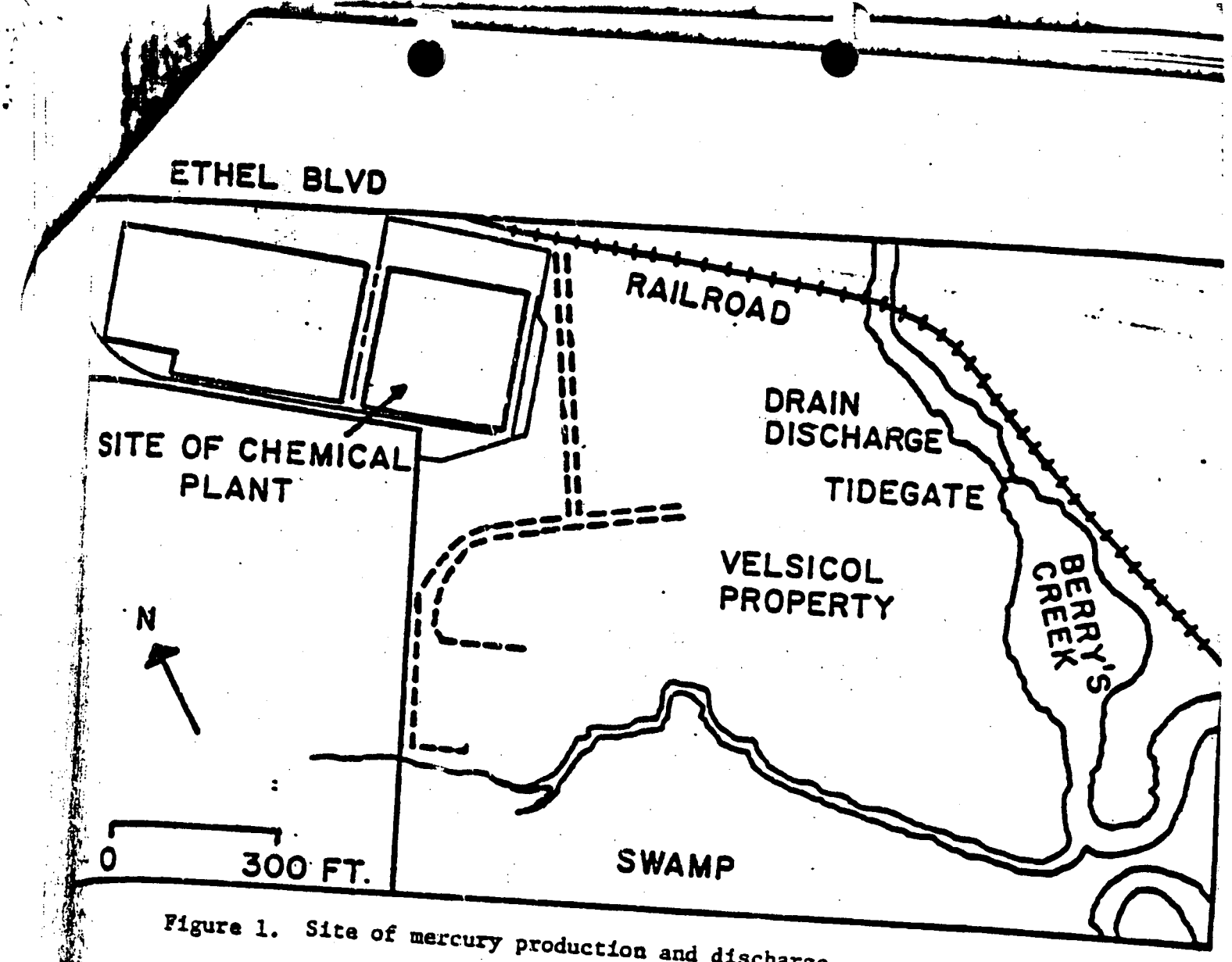

Figure 1. Site of mercury production and discharge.

Bradley M. Campbell, Commissioner
New Jersey Department of Environmental Protection
401 East State Street
P.O. Box 402
Trenton, NJ 08625-0402

Dear Commissioner Campbell:

I am writing in response to your letter dated October 31, 2003 regarding the investigation of the Berry's Creek watershed. In your letter you reference discussions with Rohm and Haas and your office regarding an alternative model for investigating and remediating Berry's Creek. You also offered to take the lead in developing and piloting this program.

As you know, the Berry's Creek watershed contains three National Priorities List (NPL) sites: the Scientific Chemical Processing (SCP) site in Carlstadt; the Universal Oil Products (UOP) site in East Rutherford; and the Ventron/Velsicol site in Wood-Ridge/Carlstadt. The New Jersey Department of Environmental Protection (NJDEP) is the lead agency for the upland portions of the UOP and Ventron/Velsicol sites. The U.S. Environmental Protection Agency (EPA) is the lead agency for the SCP site. In the mid-1980s, NJDEP initiated studies to investigate Berry's Creek, as part of the Ventron/Velsicol site. The Ventron/Velsicol site is a primary source of the mercury contamination in Berry's Creek. In 1990, at NJDEP's request, EPA conducted a Potentially Responsible Party (PRP) search, which identified potential contaminant sources that included both NPL sites and non-NPL sites. Resource issues within NJDEP precluded the Department from pursuing the PRPs further.

In December 2001 EPA and NJDEP agreed to initiate a separate Berry's Creek study, with EPA as the lead agency. Using the findings from the 1990 PRP search, EPA identified a group of 15 to 20 PRPs for Berry's Creek, and requested information from about 100 other parties. Prior to issuing notice letters to these PRPs for performance of this study, EPA was approached by Rohm and Haas, the successor to the Ventron Corporation. Senior officials from EPA Region 2 met with representatives from Rohm and Haas in May and July of 2002 to discuss an alternative approach similar to the one outlined in your letter. In addition, Rohm and Haas requested that EPA delay issuance of

these notice letters. After lengthy discussions with Rohm and Hass, on September 30, 2002 EPA and Rohm and Haas's Morton International subsidiary signed an agreement for Morton to provide $225,000 to EPA for development of a Work Plan to investigate, assess risks and evaluate remedial options for the Berry's Creek Study Area. In addition, by EPA not issuing notice letters immediately, the agreement provides Rohm and Haas an opportunity to seek alternatives to a Superfund study, if such alternatives exist. EPA anticipates completion of the Work Plan in approximately eight months. EPA's agreement with Morton provides the company with opportunities to meet with EPA during the Work Plan's development and provide comments on an early draft.

Therefore, we believe that further discussions are unnecessary at this time. EPA will proceed with the development of the Berry's Creek Study in accordance with our agreement with Morton.

If you have further questions regarding the Berry's Creek study, please feel free to contact me, or have your staff contact George Pavlou, the Director of the Emergency and Remedial Response Division at 212-637-4392.

Sincerely,

Jane M. Kenny
Regional Administrator